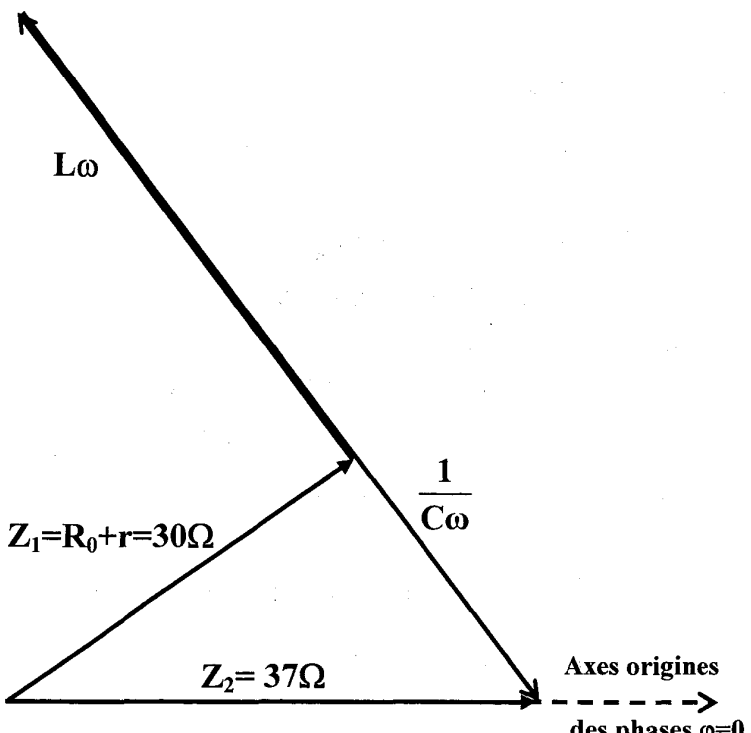
$$P = (R + r)\frac{I^2}{2} + (R + r)\,I^2 = 30.(0{,}32)^2 = 3{,}07 \text{ watt}$$

e-

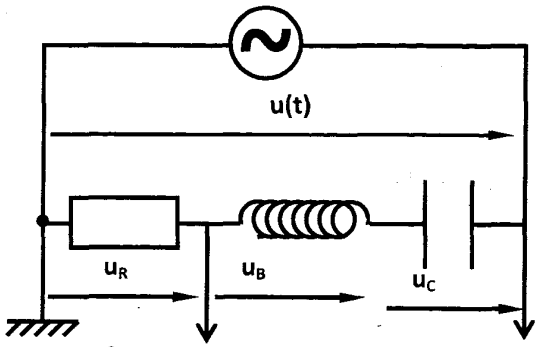
Echelle : 1cm ⟶ 5Ω

Lω = 40Ω ⟶ 8cm



Exercice N° 5 :

1°)



2°)

a- $T = 6\text{ ms} = 6.10^{-3}.\text{s}$

$$N = \frac{1}{T} = \frac{1}{6.10^{-3}} = 166{,}66\text{Hz}$$

b- $\Delta t = 1\text{ms} = \frac{T}{6}$

$$|\Delta\varphi| = \omega.\Delta t = \frac{2\pi}{T}.\frac{T}{6} = \frac{\pi}{3}\text{rad}$$

u_R en avance % a u $\Rightarrow$ $\varphi_{u_R} - \varphi_i = \frac{\pi}{3}$

or $u_R = R.i \Rightarrow \varphi_{u_R} = \varphi_i$ donc $\varphi_i - \varphi_u = \frac{\pi}{3}$ $\Rightarrow$ le circuit est capacitif

3°)

• $u(t) = U_m \sin(\omega t + \varphi_u)$

$U_m = 4\text{ V}$

$$\omega = \frac{2\pi}{T} = \frac{\pi}{3}\,10^3\text{ rad} = 1024\text{ rad.s}^{-1}$$